APPENDIX C

COMMISSION'S SUBSCRIBERSHIP DATA AS OF JUNE 30, 2001

High-Speed Services for Internet Access: Subscribership as of June 30, 2001

Industry Analysis Division
Common Carrier Bureau
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High-Speed Services for Internet Access: Subscribership as of June 30, 2001

Congress directed the Commission and the states, in section 706 of the Telecommunications Act of 1996, to encourage deployment of advanced telecommunications capability in the United States on a reasonable and timely basis.[1] To assist in its evaluation of such deployment, the Commission instituted a formal data collection program to gather standardized information about subscribership to high-speed services, including advanced services, from wireline telephone companies, cable providers, terrestrial wireless providers, satellite providers, and any other facilities-based providers of advanced telecommunications capability.[2]

We summarize here information from the fourth data collection, thereby presenting a snapshot of subscribership as of June 30, 2001.[3] Subscribership to high-speed services for Internet access increased by 36% during the first half of the year 2001, to a total of 9.6 million lines in service. The presence of high-speed service subscribers was reported in fifty states, the District of Columbia, Puerto Rico, and the Virgin Islands, and in 78% of the zip codes in the United States.

Before presenting the most recent information in some detail, a brief description of the Commission's data collection program is in order to enable the reader to better understand how the nationwide information presented here may compare to similar information derived from other sources. First, a facilities-based provider of high-speed service lines (or wireless channels) in a given state reports to the Commission basic information about its service offerings and customers if the provider has at least 250

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[1] *See* §706, Pub.L. 104-104, Title VII, Feb. 8, 1996, 110 Stat. 153, reproduced in the notes under 47 U.S.C. §157. We define services as "high-speed" that provide the subscriber with transmissions at a speed in excess of 200 kilobits per second (kbps) in at least one direction. "Advanced services," which provide the subscriber with transmission speeds in excess of 200 kbps in each direction, are a subset of high-speed services.

[2] *Local Competition and Broadband Reporting*, CC Docket No. 99-301, Report and Order, 15 FCC Rcd 7717 (2000) (*Data Gathering Order*). During this data gathering program, qualifying providers file FCC Form 477 each year on March 1 (reporting data for the preceding December 31) and September 1 (reporting data for June 30 of the same year). An updated FCC Form 477, and Instructions for that particular form, for each specific round of the data collection may be downloaded from the FCC Forms website at <www.fcc.gov/formpage.html>. The formal program followed several attempts by the Common Carrier Bureau to collect information on a voluntary basis. *See Local Competition and Broadband Reporting*, CC Docket No. 99-301, Notice of Proposed Rulemaking, 14 FCC Rcd 18106 (1999).

[3] Results from the first data collection, in which providers reported numbers of subscribers to high-speed services at the end of 1999, were presented in the Commission's second report to Congress on advanced telecommunications capability. *See Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, CC Docket No. 98-146, Second Report (rel. Aug. 21, 2000), available at <www.fcc.gov/broadband>. (In the report, the Commission's data collection program is referred to as the "Broadband Survey.") Results from the second and third data collections appear in reports titled *High-Speed Services for Internet Access*, available at <www.fcc.gov/ccb/stats>.

such lines in service in that state. While providers not meeting the reporting threshold may provide information on a voluntary basis, as some have done, it is likely that not all such providers have reported data.[4] In particular, we do not know how comprehensively small providers, many of which serve rural areas with relatively small populations, are represented in the data summarized here. Second, lines (or wireless channels) that do not meet the Commission's definition of "high-speed" (i.e., delivering transmissions to the subscriber at a speed in excess of 200 kbps in at least one direction) are not reported. Some asymmetric digital subscriber line (ADSL) services and Integrated Services Digital Network (ISDN) services provided by telephone companies and some services that connect subscribers to the Internet over cable systems do not meet this criterion, but may nevertheless meet the needs of the subscribers who select them.

We expect providers to report data more accurately as they gain experience with the program. We also expect that there may be some need for further clarification and adjustment of the reporting system.[5] Nevertheless, based on the information now available, the following broad conclusions emerge:

- Subscribership to high-speed services increased by 36% during the first half of the year 2001, to a total of 9.6 million lines (or wireless channels) in service. The rate of growth during the last half of the year 2000 was 62%.[6] See Table 1.

- Considering services according to the technology deployed in the "last few feet" to the subscriber's premises, high-speed lines in service over coaxial cable systems (cable modem service) remained the most numerous, increasing 45% during the first half of the year 2001, to 5.2 million lines. High-speed ADSL lines in service increased 36%, to 2.7 million lines.[7]

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[4] We received 76 state-specific voluntary submissions (made by 38 holding companies) in the first FCC Form 477 filing, 81 voluntary submissions (made by 35 holding companies) in the second filing, 64 voluntary submissions (made by 41 holding companies) in the third filing, and 64 voluntary submissions (made by 41 holding companies) in the fourth filing. High-speed lines reported in voluntary submissions in the fourth filing represent less than 0.1% of total high-speed lines reported.

[5] The Commission has requested comments on whether various modifications should be made to this data collection. *See Local Competition and Broadband Reporting*, CC Docket No. 99-301, Second Notice of Proposed Rulemaking, 16 FCC Rcd 2072 (rel. Jan. 19, 2001).

[6] The National Bureau of Economic Research dates the current U.S. recession from March, 2001. Starting about a year earlier, facilities-based providers of high-speed services -- particularly non-incumbent providers -- found it increasingly difficult to raise capital.

[7] Providers are instructed to report a high-speed subscriber in the (mutually exclusive) technology category that characterizes the last few feet of distribution plant to the subscriber's premises, e.g., coaxial cable in the case of the hybrid fiber-coax (HFC) architecture of upgraded cable systems. As noted above, ADSL services that do not deliver over 200 kbps in at least one direction are not included in the data reported here. Symmetric DSL services at speeds exceeding 200 kbps are included in the "other wireline" category because they are typically used to provide data services that are functionally equivalent to a T1 and other data services that wireline telephone companies have offered to business customers for some time.

- Reported high-speed connections to end-user customers by means of satellite or fixed wireless technologies increased at the fastest rate, 73%, during the first half of the year 2001, to 0.2 million. Reported fiber optic connections to end-user customer premises increased by 21%, to 0.5 million.[8]

- Subscribership to the subset of high-speed services that the Commission defines as advanced services (i.e., delivering to subscribers transmission speeds in excess of 200 kbps in each direction) increased by 38% during the first half of the year 2001, to a total of 5.9 million lines (or wireless channels) in service. Advanced services lines provided by means of ADSL technology increased by 48%, and advanced services lines provided over coaxial cable systems increased by 52%. See Table 2.

- As of June 30, 2001, there were 7.8 million residential and small business subscribers to high-speed services. By contrast, there were approximately 5.2 million such subscribers six months earlier, and about 3.2 million a year earlier. See Table 3.

- Of the 7.8 million high-speed lines in service to residential and small business subscribers at the end of June 2001, we estimate that 4.3 million lines also met the Commission's definition of advanced services. See Table 4.

- Among entities that reported facilities-based ADSL high-speed lines in service as of June 30, 2001, about 93% of such lines were reported by incumbent local exchange carriers (ILECs). See Table 5.

- Providers of high-speed services over coaxial cable systems report serving subscribers in 49 states and the District of Columbia. Providers of high-speed ADSL services report serving subscribers in 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands, as do providers who use wireline technologies other than ADSL, or who use optical carrier (i.e., fiber), satellite, or fixed wireless technologies in the last few feet to the subscriber's premises.[9] See Table 6.

- The Commission's data collection program uniquely gathers from providers information about the number of high-speed lines in service in individual states, in total and by technology deployed in the last few feet to the subscriber's premises. Relatively large numbers of total high-speed lines in service are associated with the more populous states. The most populous state, California, has the largest reported number of high-speed lines. The second, third, and fourth largest numbers of high-speed lines are reported for New York, Florida, and Texas, which are the third, fourth, and second most populous states, respectively. See Table 7.

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[8] Inconsistencies in reporting data in these technology categories over the course of the first three data collections make comparison of growth rates problematic.

[9] Information about providers of high-speed services other than ADSL and cable modem is reported in a single category, for the individual states, to honor requests for nondisclosure of information that reporting entities assert is competitively sensitive. In the *Data Gathering Order*, the Commission stated it would publish high-speed data only once it has been aggregated in a manner that does not reveal individual company data. *See Data Gathering Order*, 15 FCC Rcd 7760.

- Reporting entities estimate the percentage of their high-speed lines in service that connect to residential and small business end-user customers (as opposed to connecting to medium and large business, institutional, or government end-user customers).[10] These percentages allow us to derive approximate numbers of residential and small-business high-speed lines in service by state. See Table 8.

- The Commission's data collection program also requires service providers to identify each zip code in which the provider has at least one high-speed subscriber. As of June 30, 2001, subscribers to high-speed services were reported in 78% of the nation's zip codes. Multiple providers reported having subscribers in 58% of the nation's zip codes.[11] See Table 9.

- Our analysis indicates that 97% of the country's population lives in the 78% of zip codes where a provider reports having at least one high-speed service subscriber.[12] Moreover, numerous competing providers report serving high-speed subscribers in the major population centers of the country. See the map that follows Table 9.

- States vary widely with respect to the percentage of zip codes in the state in which no high-speed lines are reported to be in service. See Table 10.

- High population density has a positive correlation with reports that high-speed subscribers are present, and low population density has a negative correlation. For example, as of June 30, 2001, high-speed subscribers are reported to be present in 97% of the most densely populated zip codes and in 49% of zip codes with the lowest population densities.[13] However, the comparable figure for the least dense zip codes was 39% six months earlier. See Table 11.

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[10] End-user customers use the high-speed services for their own purposes and do not resell them to other entities. For purposes of the FCC Form 477 data collection, Internet Service Providers (ISPs) are not end-user customers. Reporting entities are directed to consider a line as being provided to an end-user customer in the "residential and small business" category if that customer orders high-speed service of a type (e.g., speeds in the downstream (from the Internet to the end user) and upstream (from the end user to the Internet) directions) that is normally associated with residential customers.

[11] Lists of zip codes with number of service providers as reported in the FCC Form 477 filings are made available at <www.fcc.gov/ccb/stats> in a format that honors requests for nondisclosure of information the reporting entities assert is competitively sensitive.

[12] Historical zip code data have been revised following staff review of reporting methodologies with a number of reporting entities. Some inconsistencies of reporting methodology among reporting periods and among reporting entities remain.

[13] For this comparison, we consider the most densely populated zip codes to be those with more than 268 persons per square mile (the top three deciles), and the least densely populated zip codes to be those with fewer than 25 persons per square mile (the bottom three deciles).

- High median family income also has a positive correlation with reports that high-speed subscribers are present. In the top one-tenth of zip codes ranked by median family income, high-speed subscribers are reported in 96% of zip codes. By contrast, high-speed subscribers are reported in 59% of zip codes with the lowest median family income, compared to 55% six months earlier. See Table 12.

As other information from the Commission's data collection program (FCC Form 477) becomes available, it will be included in future reports on the deployment of advanced telecommunications capability and in publications such as this one.

We invite users of this information to provide suggestions for improved data collection and analysis by:

- Using the attached customer response form,
- E-mailing comments to eburton@fcc.gov,
- Calling the Industry Analysis Division at (202) 418-0940, or
- Participating in any formal proceedings undertaken by the Commission to solicit comments for improvement of FCC Form 477.

Table 1
High-Speed Lines 1/
(Over 200 kbps in at Least One Direction)

Types of Technology 2/	December 1999	June 2000	December 2000	June 2001	Percent Change	
					Jun 2000 - Dec 2000	Dec 2000 - Jun 2001
ADSL	369,792	951,583	1,977,101	2,693,834	108 %	36 %
Other Wireline	609,909	758,594	1,021,291	1,088,066	35	7
Coaxial Cable	1,411,977	2,284,491	3,582,874	5,184,141	57	45
Fiber	312,204	307,151	376,203	455,593	22	21
Satellite or Fixed Wireless	50,404	65,615	112,405	194,707	71	73
Total Lines	2,754,286	4,367,434	7,069,874	9,616,341	62 %	36 %

Table 2
Advanced Services Lines 1/
(Over 200 kbps in Both Directions)

Types of Technology 2/	December 1999	June 2000	December 2000	June 2001	Percent Change	
					Jun 2000 - Dec 2000	Dec 2000 - Jun 2001
ADSL	185,950	326,816	675,366	998,883	107 %	48 %
Other Wireline	609,909	758,594	1,021,291	1,088,066	35	7
Coaxial Cable	877,465	1,469,130	2,193,609	3,329,976	49	52
Fiber	307,315	301,143	376,197	455,549	25	21
Satellite or Fixed Wireless	7,816	3,649	26,906	73,476	NM	173
Total Lines	1,988,455	2,859,332	4,293,369	5,945,950	50 %	38 %

NM - Not meaningful due to inconsistencies in reported data.

1/ Some previously published data have been revised.

2/ The mutually exclusive types of technology are, respectively: Asymmetric digital subscriber line (ADSL) technologies, which provide speeds in one direction greater than speeds in the other direction; wireline technologies "other" than ADSL, including traditional telephone company high-speed services and symmetric DSL services that provide equivalent functionality; coaxial cable, including the typical hybrid fiber-coax (HFC) architecture of upgraded cable TV systems; optical fiber to the subscriber's premises (e.g., Fiber-to-the-Home, or FTTH); and satellite and (terrestrial) fixed wireless systems, which use radio spectrum to communicate with a radio transmitter at the subscriber's premises.

Table 3
Residential and Small Business High-Speed Lines 1/
(Over 200 kbps in at Least One Direction)

Types of Technology 2/	December 1999	June 2000	December 2000	June 2001	Percent Change	
					Jun 2000 - Dec 2000	Dec 2000 - Jun 2001
ADSL	291,757	772,272	1,594,879	2,490,740	107 %	56 %
Other Wireline	46,856	111,490	176,520	138,307	NM	NM
Coaxial Cable	1,402,394	2,215,259	3,294,546	4,998,540	49	52
Fiber	1,023	325	1,994	2,623	NM	NM
Satellite or Fixed Wireless	50,189	64,320	102,432	182,165	59	78
Total Lines	1,792,219	3,163,666	5,170,371	7,812,375	63 %	51 %

Table 4
Residential and Small Business Advanced Services Lines
(Over 200 kbps in Both Directions)

Types of Technology 2/	December 1999	June 2000	December 2000	June 2001	Percent Change	
					Jun 2000 - Dec 2000	Dec 2000 - Jun 2001
ADSL	116,994	195,324	393,246	916,364	101 %	133 %
Other Wireline	46,856	111,490	176,520	138,307	NM	NM
Coaxial Cable	872,024	1,401,434	2,177,328	3,146,953	55	45
Fiber	138	325	1,992	2,617	NM	NM
Satellite or Fixed Wireless	7,682	2,916	17,043	60,988	NM	NM
Total Lines	1,043,694	1,711,488	2,766,130	4,265,229	62 %	54 %

Note: Residential and small business advanced services lines are estimated based on data from FCC Form 477.

NM - Not meaningful due to inconsistencies in reported data.

1/ Some previously published have been revised.

2/ The mutually exclusive types of technology are, respectively: Asymmetric digital subscriber line (ADSL) technologies, which provide speeds in one direction greater than speeds in the other direction; wireline technologies "other" than ADSL, including traditional telephone company high-speed services and symmetric DSL services that provide equivalent functionality; coaxial cable, including the typical hybrid fiber-coax (HFC) architecture of upgraded cable TV systems; optical fiber to the subscriber's premises (e.g., Fiber-to-the-Home, or FTTH); and satellite and (terrestrial) fixed wireless systems, which use radio spectrum to communicate with a radio transmitter at the subscriber's premises.

Table 5
High-Speed Lines by Type of Provider
as of June 30, 2001
(Over 200 kbps in at Least One Direction)

Types of Technology 1/	Lines				Percent of Lines		
	RBOC 2/	Other ILEC	Non-ILEC 3/	Total	RBOC	Other ILEC	Non-ILEC
ADSL	2,328,147	175,876	189,811	2,693,834	86.4 %	6.5 %	7.0 %
Other Wireline	706,944	108,738	272,384	1,088,066	65.0	10.0	25.0
Coaxial Cable	*	*	5,105,547	5,184,141	*	*	98.5
Other	*	*	597,983	650,300	*	*	92.0
Total Lines	3,095,699	354,917	6,165,725	9,616,341	32.2 %	3.7 %	64.1 %

* Data withheld to maintain firm confidentiality.

1/ The mutually exclusive types of technology are, respectively: Asymmetric digital subscriber line (ADSL) technologies, which provide speeds in one direction greater than speeds in the other direction; wireline technologies "other" than ADSL, including traditional telephone company high-speed services and symmetric DSL services that provide equivalent functionality; coaxial cable, including the typical hybrid fiber-coax (HFC) architecture of upgraded cable TV systems; optical fiber to the subscriber's premises (e.g., Fiber-to-the-Home, or FTTH); and satellite and (terrestrial) fixed wireless systems, which use radio spectrum to communicate with a radio transmitter at the subscriber's premises.

2/ RBOC lines include all high-speed lines reported by BellSouth, Qwest, SBC, and Verizon.

3/ Non-ILEC lines include lines provided by carriers affiliated with non-RBOC ILECs.

Table 6
Providers of High-Speed Lines by Technology
as of June 30, 2001 1/
(Over 200 kbps in at Least One Direction)

	ADSL	Coaxial Cable	Other 2/	Total (Unduplicated)
Alabama	*	8	10	16
Alaska	*	0	6	7
Arizona	5	*	9	11
Arkansas	*	*	4	7
California	12	8	22	28
Colorado	8	*	11	14
Connecticut	5	5	10	13
Delaware	*	*	*	5
District of Columbia	5	*	11	11
Florida	9	10	19	27
Georgia	11	7	18	24
Hawaii	*	*	*	*
Idaho	*	*	4	7
Illinois	10	5	17	23
Indiana	6	6	10	17
Iowa	6	6	9	15
Kansas	*	6	10	14
Kentucky	7	*	7	14
Louisiana	4	4	8	12
Maine	4	*	6	8
Maryland	4	5	13	17
Massachusetts	5	5	13	16
Michigan	8	5	13	20
Minnesota	8	8	15	22
Mississippi	*	*	4	8
Missouri	6	5	12	17
Montana	5	*	*	7
Nebraska	4	5	7	11
Nevada	*	*	10	11
New Hampshire	4	*	8	9
New Jersey	6	*	14	16
New Mexico	4	*	8	10
New York	12	5	20	26
North Carolina	9	7	13	21
North Dakota	*	*	*	5
Ohio	11	8	15	23
Oklahoma	4	*	10	14
Oregon	6	*	9	11
Pennsylvania	11	5	22	25
Puerto Rico	*	0	*	*
Rhode Island	*	*	4	4
South Carolina	6	7	10	15
South Dakota	4	*	*	7
Tennessee	7	5	9	16
Texas	19	7	22	33
Utah	5	*	10	11
Vermont	*	*	*	6
Virgin Islands	*	0	*	*
Virginia	8	5	19	23
Washington	9	*	12	17
West Virginia	*	*	5	6
Wisconsin	9	*	11	16
Wyoming	*	*	*	*
Nationwide (Unduplicated) Jun 2001	86	47	98	160
Nationwide (Unduplicated) Dec 2000	68	39	87	136
Nationwide (Unduplicated) Jun 2000	47	36	75	116
Nationwide (Unduplicated) Dec 1999	28	43	65	105

* Data withheld to maintain firm confidentiality. In this table, an asterisk also indicates 1-3 providers reporting.

1/ Some previously published data have been revised.

2/ Other includes wireline technologies other than asymmetric digital subscriber line (ADSL), optical fiber to the subscriber's premises, satellite, and (terrestrial) fixed wireless systems.

Table 7
High-Speed Lines by Technology 1/
(Over 200 kbps in at Least One Direction)

	Dec 1999	Jun 2000	Dec 2000	Jun 2001				Percentage Change	
	Total	Total	Total	ADSL	Coaxial Cable	Other 2/	Total	Jun 2000 - Dec 2000	Dec 2000 - Jun 2001
Alabama	19,796	32,756	63,334	*	47,325	*	86,234	93 %	36 %
Alaska	*	*	934	*	0	*	20,906	NA	2138
Arizona	58,825	111,678	153,500	39,828	*	*	158,122	37	3
Arkansas	8,155	15,539	28,968	*	*	5,154	40,803	86	41
California	547,179	910,006	1,386,625	735,677	609,174	360,963	1,705,814	52	23
Colorado	36,726	64,033	104,534	52,617	*	*	147,220	63	41
Connecticut	36,488	63,772	111,792	30,142	106,019	12,896	149,057	75	33
Delaware	1,558	3,660	7,492	*	*	*	12,771	105	70
District of Columbia	13,288	16,926	27,757	16,313	*	*	39,101	64	41
Florida	190,700	244,678	460,795	170,702	372,190	108,275	651,167	88	41
Georgia	75,870	130,292	203,855	106,649	109,922	86,027	302,598	56	48
Hawaii	*	*	*	*	*	*	*	NA	NA
Idaho	*	8,070	15,908	*	*	2,441	20,233	97	27
Illinois	77,672	166,933	242,239	89,080	144,872	116,289	350,241	45	45
Indiana	20,059	49,702	60,494	2,375	56,441	21,548	80,364	22	33
Iowa	19,258	49,159	58,199	9,532	59,253	3,798	72,583	18	25
Kansas	26,179	42,679	68,743	*	74,337	*	101,734	61	48
Kentucky	23,570	24,237	32,731	20,256	*	*	39,297	35	20
Louisiana	28,133	43,294	74,950	37,444	64,219	20,022	121,685	73	62
Maine	19,878	17,864	26,266	6,877	*	*	38,149	47	45
Maryland	52,749	71,005	124,465	51,051	97,466	32,504	181,021	75	45
Massachusetts	114,116	185,365	289,447	82,699	243,670	30,887	357,256	56	23
Michigan	81,223	135,318	198,230	41,428	301,842	52,313	395,583	46	100
Minnesota	38,268	65,272	117,283	51,640	80,259	16,113	148,012	80	26
Mississippi	*	6,514	12,305	*	*	7,551	21,517	89	75
Missouri	23,347	46,903	100,403	53,250	51,733	18,932	123,915	114	23
Montana	*	*	7,378	2,842	*	*	10,446	NA	42
Nebraska	36,748	44,188	54,085	9,293	37,168	8,727	55,188	22	2
Nevada	23,514	40,582	59,879	*	*	16,691	78,535	48	31
New Hampshire	22,807	33,045	42,364	5,651	*	*	55,658	28	31
New Jersey	101,832	144,203	285,311	102,430	*	*	428,514	98	50
New Mexico	*	2,929	28,497	7,578	*	*	20,482	873	-28
New York	186,504	342,743	603,487	197,135	564,423	131,474	893,032	76	48
North Carolina	57,881	81,998	136,703	41,332	115,949	48,335	205,616	67	50
North Dakota	*	2,437	4,227	*	*	*	6,277	73	48
Ohio	160,792	156,980	230,525	87,567	213,606	57,792	358,965	47	56
Oklahoma	96,730	163,703	95,138	31,321	*	*	92,947	NM	NM
Oregon	27,062	44,186	76,839	25,877	*	*	93,242	74	21
Pennsylvania	71,926	79,892	176,670	89,595	131,119	42,522	263,236	121	49
Puerto Rico	*	*	*	*	0	*	*	NA	NA
Rhode Island	*	20,628	30,919	*	*	1,908	49,215	50	59
South Carolina	25,229	32,824	63,914	9,704	68,487	18,648	96,839	95	52
South Dakota	*	3,516	2,839	1,652	*	*	5,448	-19	92
Tennessee	66,307	87,317	122,391	22,902	96,119	33,489	152,510	40	25
Texas	152,518	276,087	522,538	197,668	328,900	120,271	646,839	89	24
Utah	11,635	19,612	35,970	23,476	*	*	55,103	83	53
Vermont	*	1,551	7,773	*	*	*	16,230	401	109
Virgin Islands	0	*	*	*	0	*	*	NA	NA
Virginia	51,305	72,436	139,915	39,114	131,553	42,141	212,808	93	52
Washington	71,930	118,723	195,628	64,812	*	*	227,066	65	16
West Virginia	*	1,835	6,498	*	*	2,062	16,697	254	157
Wisconsin	18,599	34,262	76,257	17,800	*	*	127,755	123	68
Wyoming	*	*	*	*	*	*	*	NA	NA
Nationwide Reported Total	2,754,286	4,367,434	7,069,874	2,693,834	5,184,141	1,738,366	9,616,341	62 %	36 %

NA - Not Available.

NM - Not meaningful due to inconsistencies in reported data.

* Data withheld to maintain firm confidentiality.

1/ Some previously published data have been revised.

2/ Other includes wireline technologies other than asymmetric digital subscriber line (ADSL), optical fiber to the subscriber's premises, satellite, and (terrestrial) fixed wireless systems.

Table 8
High-Speed Lines by Type of User
as of June 30, 2001
(Over 200 kbps in at Least One Direction)

	Residential and Small Business	Other 1/	Total
Alabama	70,308	15,926	86,234
Alaska	15,288	5,618	20,906
Arizona	141,450	16,672	158,122
Arkansas	37,616	3,187	40,803
California	1,332,462	373,352	1,705,814
Colorado	128,198	19,022	147,220
Connecticut	138,552	10,505	149,057
Delaware	10,736	2,035	12,771
District of Columbia	22,243	16,858	39,101
Florida	547,207	103,960	651,167
Georgia	221,220	81,378	302,598
Hawaii	*	*	*
Idaho	17,616	2,617	20,233
Illinois	256,197	94,044	350,241
Indiana	62,335	18,029	80,364
Iowa	69,232	3,351	72,583
Kansas	96,393	5,341	101,734
Kentucky	23,557	15,740	39,297
Louisiana	102,516	19,169	121,685
Maine	32,898	5,251	38,149
Maryland	149,593	31,429	181,021
Massachusetts	312,711	44,545	357,256
Michigan	350,073	45,510	395,583
Minnesota	132,244	15,768	148,012
Mississippi	15,008	6,509	21,517
Missouri	108,458	15,457	123,915
Montana	9,528	918	10,446
Nebraska	49,912	5,276	55,188
Nevada	62,451	16,084	78,535
New Hampshire	49,992	5,666	55,658
New Jersey	369,508	59,006	428,514
New Mexico	17,513	2,969	20,482
New York	738,924	154,108	893,032
North Carolina	163,507	42,109	205,616
North Dakota	5,645	632	6,277
Ohio	299,240	59,725	358,965
Oklahoma	81,584	11,363	92,947
Oregon	82,919	10,323	93,242
Pennsylvania	216,551	46,685	263,236
Puerto Rico	*	*	*
Rhode Island	46,622	2,593	49,215
South Carolina	78,183	18,656	96,839
South Dakota	4,479	969	5,448
Tennessee	119,464	33,046	152,510
Texas	387,910	258,929	646,839
Utah	47,256	7,847	55,103
Vermont	15,021	1,209	16,230
Virgin Islands	*	*	*
Virginia	178,648	34,160	212,808
Washington	204,137	22,929	227,066
West Virginia	15,223	1,474	16,697
Wisconsin	105,574	22,181	127,755
Wyoming	*	*	*
Nationwide Reported Total	7,812,375	1,803,966	9,616,341

* Data witheld to maintain firm confidentiality.

1/ Other includes medium and large business, institutional, and government customers.

Table 9
Percentage of Zip Codes with High-Speed Lines in Service 1/

Number of Providers	December 1999	June 2000	December 2000	June 2001
Zero	40.3 %	33.0 %	26.8 %	22.2 %
One	26.0	25.9	22.7	20.3
Two	15.5	17.8	18.4	16.7
Three	8.2	9.2	10.9	13.2
Four	4.3	4.9	6.1	8.2
Five	2.7	3.4	4.0	4.9
Six	1.7	2.5	3.0	3.6
Seven	0.8	1.7	2.3	2.8
Eight	0.3	0.8	2.0	2.2
Nine	0.2	0.4	1.6	1.9
Ten or More	0.0	0.4	2.4	3.9

1/ Some previously published data have been revised.

High-Speed Providers by Zip Code

(As of June 30, 2001)

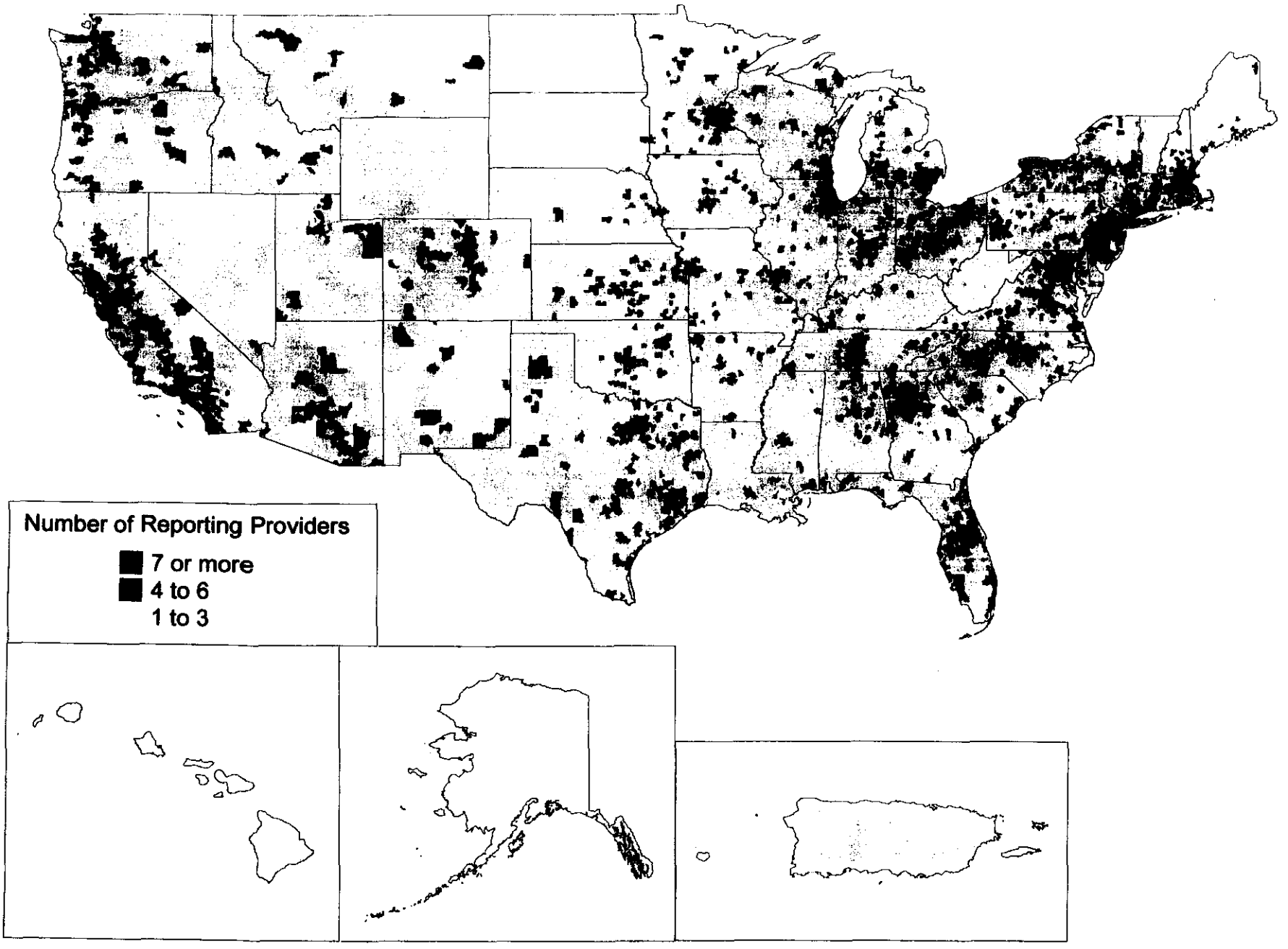

Table 10
Percentage of Zip Codes with High-Speed Lines in Service as of June 30, 2001
(Over 200 kbps in at Least One Direction)

	Number of Providers					
	Zero	One - Three	Four	Five	Six	Seven or More
Alabama	20 %	66 %	11 %	3 %	1 %	0 %
Alaska	79	18	3	0	0	0
Arizona	8	37	14	10	12	20
Arkansas	39	54	7	0	0	0
California	7	29	9	7	7	41
Colorado	15	48	10	6	3	18
Connecticut	3	48	11	10	12	16
Delaware	0	72	28	0	0	0
District of Columbia	7	15	4	7	4	63
Florida	2	35	17	13	9	24
Georgia	16	51	10	5	4	13
Hawaii	20	80	0	0	0	0
Idaho	34	56	5	5	0	0
Illinois	18	56	5	3	2	16
Indiana	19	61	8	5	1	6
Iowa	49	45	4	1	0	0
Kansas	35	52	8	4	1	0
Kentucky	40	57	3	0	0	0
Louisiana	21	75	4	0	0	0
Maine	35	61	3	1	0	0
Maryland	12	37	10	4	8	28
Massachusetts	1	31	18	10	11	29
Michigan	10	57	8	5	4	16
Minnesota	35	46	7	4	5	3
Mississippi	28	66	6	1	0	0
Missouri	35	50	4	4	3	4
Montana	48	48	3	0	0	0
Nebraska	44	49	5	2	0	0
Nevada	22	47	17	11	2	2
New Hampshire	8	64	14	8	4	2
New Jersey	1	25	13	10	10	40
New Mexico	34	56	5	3	2	1
New York	8	45	11	8	6	20
North Carolina	11	64	14	5	3	2
North Dakota	72	28	0	0	0	0
Ohio	8	59	15	7	4	6
Oklahoma	29	53	5	5	5	3
Oregon	9	64	11	7	6	3
Pennsylvania	22	50	7	6	3	12
Puerto Rico	0	100	0	0	0	0
Rhode Island	6	43	26	25	0	0
South Carolina	16	67	13	3	1	0
South Dakota	63	37	1	0	0	0
Tennessee	18	62	12	5	2	2
Texas	17	48	8	5	3	19
Utah	25	42	8	6	6	13
Vermont	25	74	1	0	0	0
Virginia	18	51	6	7	3	15
Washington	11	50	11	11	8	9
West Virginia	58	41	0	0	0	0
Wisconsin	16	62	8	5	5	4
Wyoming	47	53	0	0	0	0
Nationwide	22 %	50 %	8 %	5 %	4 %	11 %

Table 11
High-Speed Subscribership
Ranked by Population Density 1/
(Over 200 kbps in at Least One Direction)

Deciles (Blocks of Zip Codes Grouped by Density)	Persons per Square Mile (In Each Decile of Zip Codes)	Percent of Zip Codes in Decile with at Least One High-Speed Subscriber			Percent of Population in Decile that Resides in Zip Codes with High-Speed Service		
		Dec 1999	Dec 2000	Jun 2001	Dec 1999	Dec 2000	Jun 2001
90-100	More Than 3,147	96.1 %	98.2 %	98.1 %	98.9 %	99.9 %	99.9 %
80-90	947-3,147	93.2	97.1	97.1	98.5	99.8	99.8
70-80	268-947	87.5	95.7	95.6	96.2	99.3	99.5
60-70	118-268	77.7	91.5	92.3	91.4	98.1	98.8
50-60	67-118	66.9	85.9	87.5	83.3	95.0	96.8
40-50	41-67	53.7	76.1	80.9	72.3	87.9	93.0
30-40	25-41	40.9	65.0	72.8	60.0	80.0	87.3
20-30	15-25	29.8	50.1	58.9	50.9	69.4	78.4
10-20	6-15	26.7	38.5	51.1	50.2	61.9	74.6
0-10	Fewer Than 6	19.9	27.5	36.8	38.5	49.9	60.7

1/ Some previously published data have been revised.

Table 12
High-Speed Subscribership
Ranked by Household Income 1/
(Over 200 kbps in at Least One Direction)

Deciles (Blocks of Zip Codes Grouped by Median Household Income)	Median Household Income (In Each Decile of Zip Codes)	Percent of Zip Codes in Decile with at Least One High-Speed Subscriber			Percent of Population in Decile that Resides in Zip Codes with High-Speed Service		
		Dec 1999	Dec 2000	Jun 2001	Dec 1999	Dec 2000	Jun 2001
90-100	$53,494 to $291,938	90.8 %	96.1 %	96.4 %	98.4 %	99.8 %	99.8 %
80-90	$43,617 to $53,478	77.1	88.9	90.7	95.8	99.0	99.3
70-80	$38,396 to $43,614	67.0	79.5	83.8	94.3	97.8	98.5
60-70	$34,744 to $38,395	59.9	74.5	80.0	91.5	96.6	97.9
50-60	$32,122 to $34,743	55.3	71.2	77.3	90.0	95.9	97.4
40-50	$29,893 to $32,121	53.7	67.4	73.4	88.9	94.5	96.3
30-40	$27,542 to $29,892	50.4	66.9	73.5	86.1	93.8	95.9
20-30	$24,855 to $27,541	50.1	65.1	69.6	85.7	93.1	95.2
10-20	$21,645 to $24,855	46.3	61.2	67.4	83.0	91.1	93.9
0-10	$0 to $21,644	41.7	54.9	59.1	83.8	91.5	94.1

1/ Some previously published data have been revised.

APPENDIX D

COMMENTERS:	ABBREVIATION:
Adelphia Business Solutions, Inc.	ABS
Alcatel USA, Inc.	Alcatel
Alliance for Public Technology & World Institute on Disability	APT & WID
Association of America's Public Television Stations	APTS
AT&T Corp.	AT&T
BellSouth Corporation	BellSouth
Burnstein, Dave	
Commonwealth of the Northern Mariana Islands	
Global Crossing Ltd.	Global Crossing
Global Photon Systems, Inc.	Global Photon
Hughes Network Systems, Hughes Communications Galaxy, Inc., Hughes Communications, Inc.	Hughes
Intel Corporation	
Intertainer, Inc	
Metromedia Fiber Network Services, Inc.	MFN
National Association of the Deaf	NAD
National Cable & Telecommunications Association, The	NCTA
National Exchange Carrier Association	NECA
National Grange of the Order of Patrons Husbandry	Grange
National Rural Telecommunications Cooperative	NRTC
New Networks Institute	NNI
Organization for the Promotion and Advancement of Small Telecommunications Companies	OPASTCO
City of Plano, Texas	
Progress & Freedom Foundation	PFF
Qwest Communications International, Inc.	Qwest
Ruby Ranch Internet Cooperative Association	Ruby Ranch
SBC Communications, Inc.	SBC
Sprint Corporation	Sprint
StarBand Communications Corporation	
State of Alaska	
Telecommunications for the Death, Inc.	TDI
Texas Coalition of Cities for Utility Issues	TCCFUI
Texas Public Utility Commission	Texas PUC
United States Telecom Association	USTA
Verizon Telephone Companies	Verizon
WorldCom, Inc.	WorldCom

COMMENTERS:	ABBREVIATION:
Alcatel USA, Inc.	Alcatel
Alliance for Public Technology	APT
American Foundation for the Blind	AFB
American ISP Association	AISPA
AT&T Corp.	AT&T
BellSouth Corporation	BellSouth
City of Boulder, Colorado	
City of Carrollton, Texas	
City of Colorado Springs, Colorado	
Competitive Telecommunications Association	CompTel
Corning Incorporated	Corning
Covad Communications Company	Covad
EarthLink, Inc.	EarthLink
Hughes Network Systems, Hughes Communications Galaxy, Inc., Hughes Communications, Inc.	Hughes
National Association of Community Action Agencies	NACAA
National Association of Telecommunications Officers and Advisors and the National League of Cities	NATOA and NLC
National Rural Telecommunications Cooperative	NRTC
National Telephone Cooperative Association	NTCA
Progress & Freedom Foundation	PFF
Qwest Communications International, Inc.	Qwest
SBC Communications, Inc.	SBC
Telecommunications for the Deaf, Inc.	TDI
Telecommunications Industry Association	TIA
Telecommunications Right-of-Way Coalition	TelROW
Texas Coalition of Cities for Utility Issues	TCCFUI
United States Telecom Association	USTA
Velocita Corporation	Velocita
Verizon Telephone Companies	Verizon
WorldCom, Inc.	WorldCom

SEPARATE STATEMENT OF CHAIRMAN MICHAEL K. POWELL

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable And Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*

This *Report* culminates the latest in a growing list of broadband proceedings that the Commission has conducted recently to help fulfill section 706's mandate that we encourage the deployment of high-speed communications services to all Americans.

Over the last several months, the Commission has begun an examination of regulatory requirements for incumbent LEC broadband telecommunications services and expanded our consideration of broadband deployment as a goal in the context of triennial review of section 251 unbundling requirements. In the coming weeks, we will consider the statutory classification of high-speed Internet access provided via cable modems, as well as initiate an inquiry regarding the appropriate regulatory treatment of broadband Internet access provided by telephone companies. As the *Report* details, there are several additional proceedings that directly address broadband deployment, including those that seek to promote intramodal competition among incumbent LECs and their competitors and those that seek to facilitate spectrum-based broadband offerings. And these examples do not include the myriad other formal and informal activities undertaken by me, my colleagues, our fellow federal and state policymakers and our able staffs that will address some aspect of broadband deployment.

In sum, our demonstrated commitment to spurring broadband deployment is as varied as it is pervasive. It is one of our highest priorities and is never far from our thoughts as we decide communications policy.

It is in the context of these many efforts that I write separately to underscore my support for this *Report*. I agree with the *Report*'s finding that broadband is being deployed in a reasonable and timely manner, notwithstanding my firm belief that the Commission's central policymaking focus is and should remain the promotion of efficient broadband deployment. Although one can easily point to specific communities or categories of customers in which broadband is not yet fully available, the record amply illustrates that the broadband market continues to grow, and that overall availability and subscribership have increased significantly, despite some slowing investment trends. Likewise, the *Report* shows that availability and subscribership have enjoyed strong growth even in the categories of residential and small business customers, low-income consumers and people within sparsely populated regions. The *Report* bases these conclusions not only on the extensive data the Commission collects as part of its ongoing data gathering efforts, but also based on various governmental, industry and analyst assessments. In this regard, I would note that the conclusions in this *Report* are consistent with the Commerce Department's recent finding that one of the key drivers of broadband deployment,

computer usage, is increasing for Americans regardless of income, education, age, race, ethnicity or gender.[477]

Certainly, we should strive for more granular or direct data upon which to make the findings required under section 706, though obtaining it is easier said than done, as many analysts have learned. But it is misleading to suggest that the zip code data used in our evaluation provide little useful guidance on broadband deployment. Because the leading forms of broadband technology (DSL and cable modem) involve upgrading significant portions of existing networks, we know that the presence of at least one subscriber in a zip code means that there are probably many other subscribers who also have broadband available in that zip code, particularly where a service provider is mass marketing the service. And although the *Report* does correctly indicate that 97% of the country's population lives in zip codes that have some broadband deployment, it is careful not to conclude that all of those people currently have broadband available. We also must recognize that collecting additional broadband data at the Commission may burden service providers or subject them to competitive injury, thereby inhibiting their ability to contribute to the very deployment we seek to promote. In any event, the judgments we make here are reasonable and more than adequately supported by the many internal and independent sources cited or discussed here, and so I support these judgments fully.

In closing, I would reiterate that our finding that broadband deployment is reasonable and timely in no way suggests that we should flag in our efforts to foster deployment. Section 706 mandates that we promote the availability of broadband whether or not we conclude that deployment is reasonable and timely. And promoting such deployment is clearly imperative if we are to enjoy the full promise of our economy and our democratic society. Thus, the Commission will continue to carry out and expand upon the prodigious array of proceedings and other activities that I reference above. I eagerly anticipate, in particular, continued partnership with our state utility commission colleagues. It is through their individual efforts, and those of the Federal-State Joint Conference on Advanced Services that we have made enormous progress in highlighting the urgency of promoting broadband, in sharing potential solutions, and in continuing a dialogue that will yield further benefits to our regulatory efforts and to the public generally. I look forward to working with the states, and with my federal counterparts, on this worthy and critical endeavor.

[477] U.S. Department of Commerce, National Telecommunications and Information Administration and Economics and Statistics Administration, *A Nation Online: How Americans Are Expanding Their Use of the Internet* 3 (Feb. 5, 2002).

SEPARATE STATEMENT OF COMMISSIONER KATHLEEN Q. ABERNATHY

Re: Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable And Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996

I support the Commission's determination that advanced telecommunications capability is being deployed on a "reasonable and timely basis."[478] I write separately to emphasize that, while broadband deployment is occurring reasonably, that is no reason to rest on our laurels. To the contrary, I am committed to remaining vigilant in our monitoring efforts and I am encouraged that, notwithstanding our generally positive assessment of broadband deployment, the Commission has recently launched a number of rulemaking proceedings to explore how to eliminate barriers to infrastructure investment and to accelerate broadband deployment.

The Commission has appropriately been concerned about the deployment of broadband facilities in rural areas and other underserved areas. But our most recent data suggest that the digital divide is *narrowing*. The deployment gaps between urban and rural areas and between high-income and low-income households have narrowed significantly since the issuance of our last Report.[479] To be sure, deployment still needs to improve in rural areas and among low-income households. But given our conclusion in the *Second Report* that the deployment of advanced telecommunications capability was occurring on a reasonable and timely basis, the significant improvement since that Report demonstrates that such deployment — while not perfect — remains "reasonable and timely."

As the foregoing Report recognizes, our information concerning broadband deployment is imperfect. To avoid imposing undue burdens on providers, the Commission permitted providers to report subscribership (which in turn reflects their deployment of facilities) at a highly aggregated level. While the Commission's data-collection requirements prevent us from assessing the full extent of subscribership or facilities deployment within particular zip codes, third-party data confirm the conclusion that providers are continuing to deploy facilities throughout the country.[480] Moreover, the Commission already has launched a proceeding seeking comment on the efficacy of our data-collection requirements, so if there improvements we can make without imposing undue burdens on providers, we are well-positioned to do so.[481]

In addition, there are strong indications that the gap between broadband "haves" and "have-nots" will continue to shrink as a result of technological developments. Perhaps most

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[478] *See* Telecommunications Act of 1996, § 706, Pub. L. 104-104, Title VII, 110 Stat. 153 (Feb. 8, 1996) (reproduced in the notes under 47 U.S.C. § 157).

[479] *See* Report, supra, at ¶¶ 35-39.

[480] *See generally id* at ¶¶ 89-124.

[481] *See Local Competition and Broadband Reporting*, CC Docket No. 99-301, Second Notice of Proposed Rulemaking, 16 FCC Rcd 2072 (2000).

promisingly, high-speed satellite services are now available in all 50 states.[482] Local exchange carriers also appear to be making progress in extending the reach of their DSL services through new technologies.[483] And other service providers, such as electric utilities, are developing innovative means of reaching rural consumers.[484]

Despite this evidence of reasonable and timely deployment — particularly in comparison to the rollout of other new technologies and services[485] — the Commission is considering an impressive array of actions to encourage further broadband deployment. Indeed, having made broadband deployment a top priority, the Commission is leaving no stone unturned in its consideration of measures that will encourage the deployment of advanced telecommunications capability to all Americans as soon as possible. Thus, the Commission is proceeding as if the existing pace of deployment *weren't* reasonable, making the Report's assessment of reasonableness academic. As the Report details, the Commission has launched or soon will launch rulemakings that explore (a) the impact of our section 251(c) unbundling obligations on telephone companies' incentives to deploy new facilities; (b) the appropriate regulatory treatment of incumbent LECs' broadband transmission services and Internet access services; and (c) the appropriate regulatory treatment of cable operators' broadband Internet access services.[486] I enthusiastically support the Commission's further decision to consider, in consultation with industry and our state and local colleagues, possible means of removing barriers to deployment associated with local right-of-way regulation.[487] And the Commission has identified a range of other actions that have the potential to promote broadband deployment.[488]

Finally, I recognize that subscription rates lag far behind our estimates of infrastructure investment and facilities deployment. Many commenters are discouraged that the "take rate" for broadband remains less than 10 percent, even as estimates of availability approach 80 percent. But we must keep in mind the Commission's role under the 1996 Act. Section 706 directs us to encourage the deployment of advanced telecommunications *capability* — not to ensure that

[482] *See* Report, *supra* at ¶ 115.

[483] *Id.*

[484] *Id.*

[485] *See id.* at ¶ 124 (comparing rollout of the telephone and television).

[486] *Id.* at ¶¶ 151-54.

[487] *Id.* at ¶¶ 166-68.

[488] *Id.* at ¶¶ 169-77.

consumers purchase particular services. As one competitor put it, convincing large numbers of consumers to purchase broadband services "is an issue for sales and marketing arms of broadband providers, not for regulators."[489] I am confident that, as providers continue to introduce new applications and better educate consumers about the many benefits of broadband, subscribership figures will increase. But my job as a regulator is to ensure only that the necessary facilities are being deployed. As the Report demonstrates, such deployment is occurring on a reasonable and timely basis.

[489] Covad Comments at 3.

DISSENTING STATEMENT OF COMMISSIONER MICHAEL COPPS

Re: Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable And Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996

On the basis of the record before us, I am unable to determine whether the deployment of advanced telecommunications capability to all Americans is or is not reasonable and timely. This is because we have not gathered data of adequate quality or granularity to fulfill our statutory responsibility under Section 706. I cannot therefore endorse the conclusions of the majority and must respectfully dissent from this Report. I impugn no colleague's commitment to broadband deployment and no bureau's enthusiasm and hard work for bringing the wonders of broadband technologies to the American people. I just happen to have a different perspective.

The Importance of Broadband

Congress recognized the importance of broadband access in the Telecommunications Act of 1996. It gave us the statutory mandate to advance the cause of bringing access to advanced telecommunications to each and every citizen of this great country – whether they live in rural areas, on tribal lands or in the inner city; whether they are affluent or of limited income; with or without disabilities. Congressional interest in broadband has only increased in the intervening years, with broadband occupying an increasingly prominent position on the Congressional agenda. Indeed, the nation generally seems to have embarked on a significantly more intensive dialogue about broadband, putting issues on the table that were simply not there just a few months ago. This is a welcome and salutary development.

Broadband is rapidly becoming a key component of our nation's systems of education, commerce, employment, health, government and entertainment. The transformative potential of broadband technologies is, I believe, akin to the major infrastructure developments that built America to greatness. I believe that when the history of our times is written, the broadband transformation will be discussed in the same vein as the building of the roads and ports and harbors that made commerce possible in pre-Civil War America; as the Transcontinental railroads that made us a continental power in the late Nineteenth century; as the national highway system that opened the way for rapid transportation and demographic migration in the last century; and as the first great telecommunications revolution that brought telephone service to the far corners of America, a job mostly, but not yet totally, completed.

Some may argue that broadband infrastructure does not rise to the level of developmental importance I ascribe to it. But the issue does seem to be coming front-and-center in our national dialogue, and I believe there is sufficient plausibility attached to it to merit, indeed to compel, a significantly broader and deeper analysis of broadband deployment than we have thus far undertaken. We can argue whether the parameters of previous Section 706 reports were sufficiently broad. I think they were not. But circumstances have changed; new questions now need to be asked; and old questions may merit new and very different answers. This is precisely why Congress instructed the Commission to reexamine this issue regularly. New data, new analysis and new perspectives can only nourish the national dialogue we are beginning to have.

Congress gave the Commission the charge to determine whether advanced telecommunications capability -- broadband -- is being deployed to *all* Americans in a reasonable and timely fashion for two reasons. First, Congress required us, as the government's expert agency, to engage in fact finding that would inform the national debate. Second, as the agency that implements Congressional policy, we have been instructed by Congress that, if we find deployment not to be reasonable and timely, we must take immediate action to accelerate it.

Thus, in adopting this section, Congress envisioned that the FCC would actively pursue information each year on broadband deployment. Here, we have not delved as deeply as Congress expects. The data we have and the analysis derived from it are, for me, insufficient for making the critical determination mandated by Congress.

I am further troubled that today's Report neither lays out a plan to obtain these data nor initiates an action for the Commission that would foster a national dialogue and promote broadband deployment. The Commission needs to be more proactive in this pursuit. We need to investigate the availability of broadband to all Americans, including those communities that are at risk of being left behind. We must be willing to ask the hard questions and act according to full and accurate data, rather than conjecture about the state of deployment. This is too important an issue for our nation merely to conduct an incomplete analysis and conclude that everything is proceeding apace.

Inadequacy of the Data

I do not believe the Commission has gathered data of adequate quality or granularity to fulfill its statutory responsibility to determine if deployment of advanced telecommunications capability is reasonable and timely to all Americans. We simply did not have access to the information necessary to carry out our section 706 mandate. It is our statutory duty to obtain this data.

The competition-enhancing portions of the 1996 Act have led to undoubted progress in deploying broadband. We are now seeing competition not only within delivery platforms, but also among delivery platforms. Indeed, we are seeing convergence of industries, convergence of services, and convergence of markets. It is clear that companies are actively deploying advanced technologies in response to competition from other broadband providers. The competition resulting from the 1996 Act unleashed an unprecedented investment in communications infrastructure in many areas of the country.

A detailed analysis of broadband deployment might well have shown that broadband deployment is proceeding as Congress expected. Certainly the number of broadband subscribers and users of the Internet in many communities continues to increase substantially, as every report seems to confirm. And certainly we should not expect broadband to be available to everyone at the exact same instant. But the Commission is obligated to seek specific and concrete data to undergird its conclusions and to ensure that all Americans are obtaining broadband access in a reasonable and timely manner.

To carry out this 706 inquiry, the Commission asks providers to report zip codes in which there is at least one subscriber. Our data leaves the impression that everyone in a zip code has access to broadband merely because one person has it. The Report concedes that "we cannot

determine from our data the full extent to which the presence of high-speed service in a given zip code indicates that high-speed services are widely available, or whether they are restricted to a few customers." In fact, with our data, that zip code might include only large business customers buying facilities that would not be available or affordable to small business or residential customers. It might also include zip codes where only a limited number of customers have access. The majority recognizes these shortcomings, but nevertheless concludes on the basis of the data that deployment is reasonable and timely. By the logic of our current use of these data, rather than counting each zip code with one subscriber as fully connected, perhaps we ought to count each zip code that has one customer without access as ***not*** connected. I suspect accurate numbers would demonstrate a much smaller percentage of the population with access than the 97 percent contained in our data.

Moreover, the Commission must ensure that communities are not being left behind. Importantly, the Report states that certain citizens – those living in rural or insular areas or on tribal lands, those with low incomes, and those with disabilities – are at significantly greater risk of not having access to broadband. Is deployment reasonable and timely to these Americans? I do not believe that the Commission has adequately explored this question. Without doing so, we have not fulfilled our statutorily mandated responsibilities.

A Broadband Action Plan

Given the importance of broadband deployment for our nation, and without an adequate record to make a determination under section 706, I believe that the Commission should initiate a broadband action plan to obtain concrete, nationwide data, to elicit wider stakeholder input and analysis, and to promote the deployment of broadband to all Americans.

First, the Commission should adopt a specific plan to gather information that would allow a rigorous analysis of broadband deployment. The majority recognizes the limited usefulness of our data, but does not undertake steps to rectify the problem. The Commission issued a Notice of Proposed Rulemaking on this issue over a year ago but has yet to issue an order. The data we collect should focus on the availability of broadband and should not assume that everyone in a zip code has access to broadband merely because one entity does. Although certainly not an exhaustive list, more granular information, separation of data based on services to residential and small business customers, and statistical sampling can provide a fuller and more accurate picture of deployment patterns. This data is admittedly neither easy nor cheap to come by. It is, however, necessary for the fulfillment of our charge from Congress, and it must have a resource priority here at the Commission commensurate with the developmental priority that broadband has for the nation. The Commission should devote the additional resources necessary to carry out our section 706 mandate as Congress expected.

The states can play a critical role in supplying information, expertise and new perspectives. Indeed, the states are charged with an active role by Section 706. Their more active participation during the Commission's annual Section 706 work would significantly enhance the quantity of our data and the quality of our analysis. Soliciting their more active input should be one of the Commission's first action plan steps.

Second, the Commission has a responsibility to help foster a national dialogue on broadband. The nation's sense of urgency about this issue is heightening as people are asking

hard questions about how the infrastructure is to be built. We need to develop answers to these questions. A serious national dialogue about this issue will help frame the policy options. For openers, we should conduct hearings and roundtables around the country – meetings that include other government entities and significant input from both traditional and non-traditional stakeholders. We are of course an independent agency and we implement, rather than make, policy. Nevertheless, it is clear that Congress envisioned a major role for the FCC when it charged us with encouraging reasonable and timely deployment of advanced telecommunications capability to all Americans. Congress did not urge a hands-off policy upon the Commission when it comes to broadband deployment.

As part of the effort, we should devote more adequate resources to looking at what other countries are doing. We don't pay nearly enough attention to this. Interesting broadband initiatives are taking place in numerous countries. They need to be looked at, studied, evaluated. As far as I can tell, all of the industrialized countries, except the United States and Italy, have national plans for broadband deployment. And Italy is in the process of developing one. It's not that we need to emulate what others with different traditions and cultures and economies may be doing, but let's be serious enough to at least look at what they're doing and see if there may not be a lesson or two there for us.

Let's look in more detail at what some communities right here at home are doing. We need to realize that communities across America are already taking steps to supply broadband themselves when industry fails to get it to them. Certainly we need to examine the demand for broadband services; I would be among the last to suggest that we ignore the realities of the marketplace. Indeed, we must examine consumer demand, and whether and when it is appropriate to define advanced telecommunications as a higher transmission speed to take account of evolving technologies and consumer expectations. But I have been to too many conferences where the definition of broadband and demand are the only questions that are discussed. Shouldn't we also discuss why it is that some communities in America are already floating bond issues and taxing themselves to get broadband deployed to satisfy unmet demand?

Let's look at the many communities that do not have access to broadband. We should undertake a specific accounting of where these places are and what they have in common. We should examine how population density, income level, race, and other factors come into play, and determine if there are market failures that are limiting broadband deployment in these communities. We should focus in particular on rural areas, tribal lands, inner city communities, and on those of our fellow citizens who have disabilities.

Let's look more closely at potential impediments to broadband deployment. As the Report demonstrates, we have initiated a number of proceedings to promote broadband deployment. But we have not committed the resources to evaluate more broadly the impediments to deployment and to consider steps to eliminate those barriers.

And, finally, let's examine the role of government in the deployment effort. The private sector can, should, and will be the lead locomotive in rolling out broadband. But I've asked just about every businessperson I've had the chance to meet if he or she was convinced the market could get the job of deployment done. The vast majority of these business leaders tell me that for that last 10, 15, 20 percent or more of Americans, probably not. One of America's foremost CEO's told us a few months ago that 30 percent could be beyond deployment. Leaving 10

percent behind amounts to about 29 million people, and leaving 20 percent behind abandons 58 million fellow citizens. So the issue has a human face. If we get to 2020 and we have 29 or 58 or 87 million people without broadband, we will have a Broadband Chasm that not only denies many citizens of a precious right but also denies our country of critically needed economic growth.

Historically, business and government worked closely together in all of the great economic infrastructure transformations that I described earlier in these comments. All of these were built with the public and private sectors working together to provide America with the infrastructure we needed to prosper. History doesn't necessarily repeat itself, but there are enough resemblances to merit our close attention. Some may say that broaching such questions stretches the FCC mandate. I answer that examining what works -- in our communities and municipalities, in other countries, in our own historical experience -- is integral to setting out the options for our nation's policy-makers in Congress and the Administration. Our policy makers expect no less of us.

I don't pretend to have all of the answers. I don't even have all of the questions that need to be asked. Nor am I saying these are the only steps we should take. I merely say that we need to take action to get a fuller and more accurate picture of broadband deployment and try to get a handle on meeting one of the most important challenges – and opportunities – confronting our country today. America's broadband business is not, I think, business as usual.

SEPARATE STATEMENT OF COMMISSIONER KEVIN J. MARTIN

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable And Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*

Encouraging the deployment of broadband services to all Americans should be a national priority. Such services are essential to the economy of the 21st century, dramatically reducing the costs of exchanging information and allowing previously local businesses to serve the world. Broadband services are especially important to rural America, providing business, educational, and healthcare opportunities to remote parts of the country. I am hopeful that, just as rapid developments in telecommunications and technology have driven much of this nation's economic growth in recent years, broadband deployment will lead to a new period of growth. I thus believe that all levels of government should work to eliminate barriers to infrastructure investment and to accelerate broadband deployment.

Under the Chairman's direction, the Commission has sought to promote broadband deployment through a variety of efforts, including (i) proceedings on performance measures for unbundled network elements and special access, (ii) examination of the impact of unbundling obligations on telephone carriers' incentives to invest in new facilities, and (iii and iv) consideration of the appropriate regulatory treatment of broadband transmission services and Internet access services provided over cable and telephone infrastructure. These proceedings are positive steps, and I am pleased to support them.

I write separately to emphasize my belief that there is some urgency to the need for continued efforts. I agree with the Commission's conclusion that "advanced telecommunications capability" is currently being deployed on a "reasonable and timely basis." The availability of that capability is increasing, and I am pleased that subscribers to services the Commission characterizes as "high-speed" were reported in 78 percent of all zip codes in the United States.

I am concerned, however, that deployment of such services still lags in rural and other underserved areas. Our data show that fewer than 40 percent of the most sparsely populated zip codes have at least one subscriber to "high-speed" services while more than 90 percent of the most densely populated zip codes have at least one such subscriber. While that gap is narrowing, there is no question that the continued lag is far from ideal. Moreover, the fact that a particular zip code contains one subscriber to a service does not necessarily indicate that the service is widely available.

More fundamentally, however, I am concerned about the transmission speed of the services that are available to most subscribers. In making our determinations of the availability of "advanced telecommunications capability," we measure the deployment of services that offer transmission speeds of at least 200 kbps. Many argue that Internet access services at such speeds are merely transitional and that true broadband services should be defined at a much higher speed. As we acknowledge, many of the most exciting applications, such as video-on-demand, require transmission speeds significantly in excess of 200 kbps. There are strong arguments that such applications, or others that require higher speeds, offer the kind of content that consumers

truly demand, and will ultimately drive much higher adoption rates. I thus am pleased with this report's recognition that the speed at which we define "advanced telecommunications capability" is an evolving measure and particularly support the report's commitment to reevaluate the appropriate transmission speed in the future. I expect that in the next 706 inquiry, we will ask more in depth questions on the appropriate transmission speed that should mark "advanced telecommunications capability" and will seek specific information on the deployment of and subscription to higher speed services.

In the mean time, I believe that government, at all levels, should continue to play an important role in promoting broadband. While I am cautious of avoiding industrial policy, I think the government can, and should, focus on removing barriers to infrastructure investment and eliminating disincentives to deployment, both financial and regulatory.

For example, I believe the government should commit to exercising self-restraint in placing financial burdens on broadband. Currently, at every level, government too often sees broadband deployment as a potential revenue stream. Telecommunications services are subject to federal and state excise taxes – the kind of taxes traditionally reserved for *decreasing demand* for products such as alcohol and tobacco. New entrants to the broadband market face federal, state, and local rights-of-way management fees and franchise fees, which are sometimes intended to generate revenue rather than recover legitimate costs. All of these financial burdens discourage deployment and should be minimized.

Government should also endeavor to remove regulatory underbrush – burdensome regulations that may no longer serve compelling purposes. Some state and local governments – and the federal government with respect to federal lands – maintain onerous permitting processes for rights of way, zoning, and tower siting, which may be significant impediments to new entrants' ability to provide broadband. I am pleased to say that some states have begun to address these problems. For example, the Michigan Public Service Commission evaluates how open Michigan local communities are to broadband deployment, including the time it takes them to provide rights-of-way permits and the amounts they charge in franchise fees. I hope that this kind of effort to spotlight local communities that may be impeding deployment and those that are facilitating it will spur all officials to take a more critical look at their existing regulations.

Moreover, we need to focus not only on changing our regulations, but also on changing the regulatory environment. Regulatory uncertainty and delay function as entry barriers, limiting investment and impeding deployment of new services. We should work to be faster and more reliable in our decisionmaking and in our enforcement efforts. Prolonged proceedings, with shifting rules, ultimately serve no one's interest, regardless of the substantive outcome.

Finally, at the Commission, we need to place a high priority on facilities-based competition. In the past, the Commission adopted a framework that may have discouraged facilities-based competition, allowing competitors to use every piece of the incumbents' network at super-efficient prices. This regime creates significant disincentives for the deployment of new facilities that could be used to provide broadband. Under such a regime, new entrants have little incentive to build their own facilities, since they can use the incumbents' cheaper and more quickly. And incumbents have little incentive to build new facilities, since they must share them with all their competitors. Under the current Chairman, we have begun several important proceedings that may change this regime. In particular, we will examine how our unbundling

and/or pricing rules should apply to incumbent deployment of new facilities. Nevertheless, there is still significant work to be done. I look forward to working on these issues and hope to ensure that advanced telecommunications capability continues to be deployed on a reasonable and timely basis.